

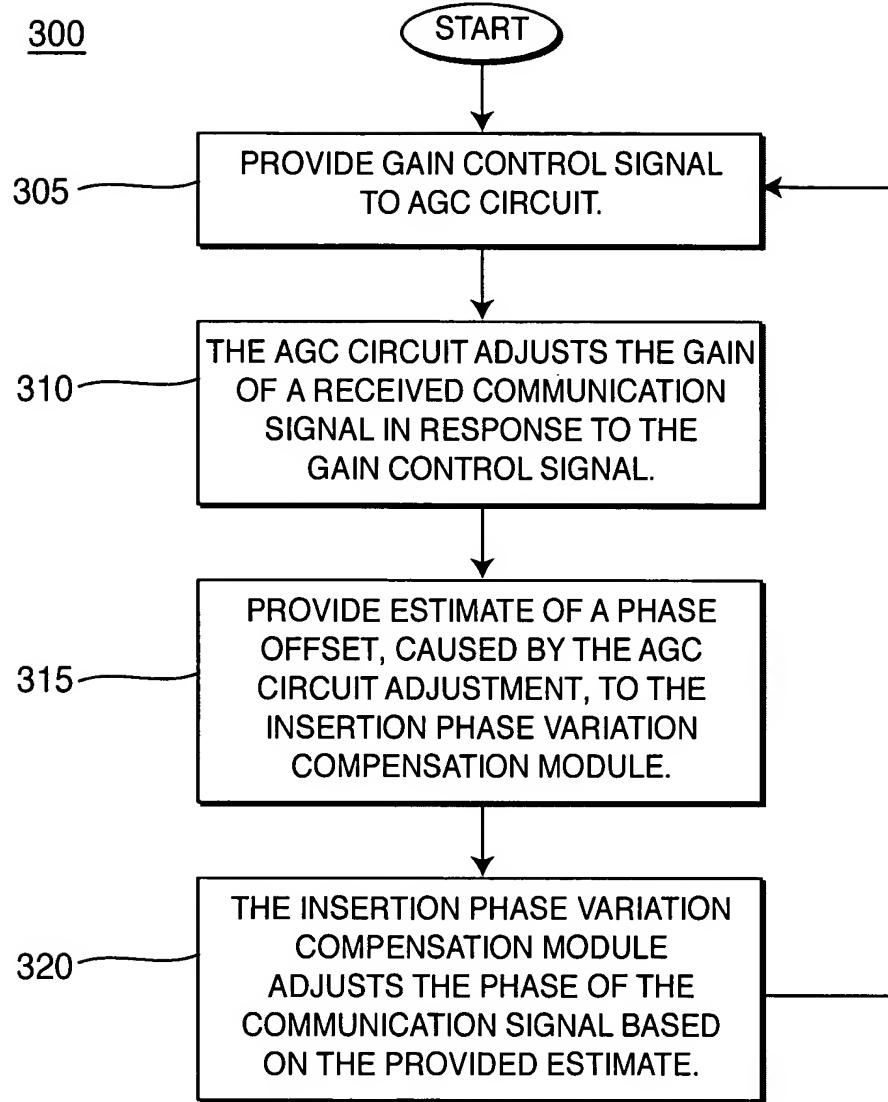
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Block diagram of a digital signal processing system for complex multiplication:

- Inputs:** (Re) and (Im).
- LUT:** A look-up table takes the **GAIN CONTROL** signal as input and provides a coefficient for the **260** multiplier.
- 260 Multiplier:** Multiplies the **260** signal by the **260** coefficient from the LUT.
- 270 Multiplier:** Multiplies the **270** signal by the **270** coefficient from the LUT.
- 280 Multiplier:** Multiplies the **280** signal by the **280** coefficient from the LUT.
- 205 Multiplier:** Multiplies the **205** signal by the **205** coefficient from the LUT.
- 210 Multiplier:** Multiplies the **210** signal by the **210** coefficient from the LUT.
- 220 Multiplier:** Multiplies the **220** signal by the **220** coefficient from the LUT.
- 230 Multiplier:** Multiplies the **230** signal by the **230** coefficient from the LUT.
- 215 Multiplier:** Multiplies the **215** signal by the **215** coefficient from the LUT.
- 225 Multiplier:** Multiplies the **225** signal by the **225** coefficient from the LUT.
- 135 Multiplier:** Multiplies the **135** signal by the **135** coefficient from the LUT.
- 140 Adder:** Adds the **140** signal to the **230** signal.
- 145 Gain Control:** A gain control signal for the final output.
- Final Output:** The output is labeled as  $(Re) + (Im) \times j$ .

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FIG. 2

**FIG. 3**